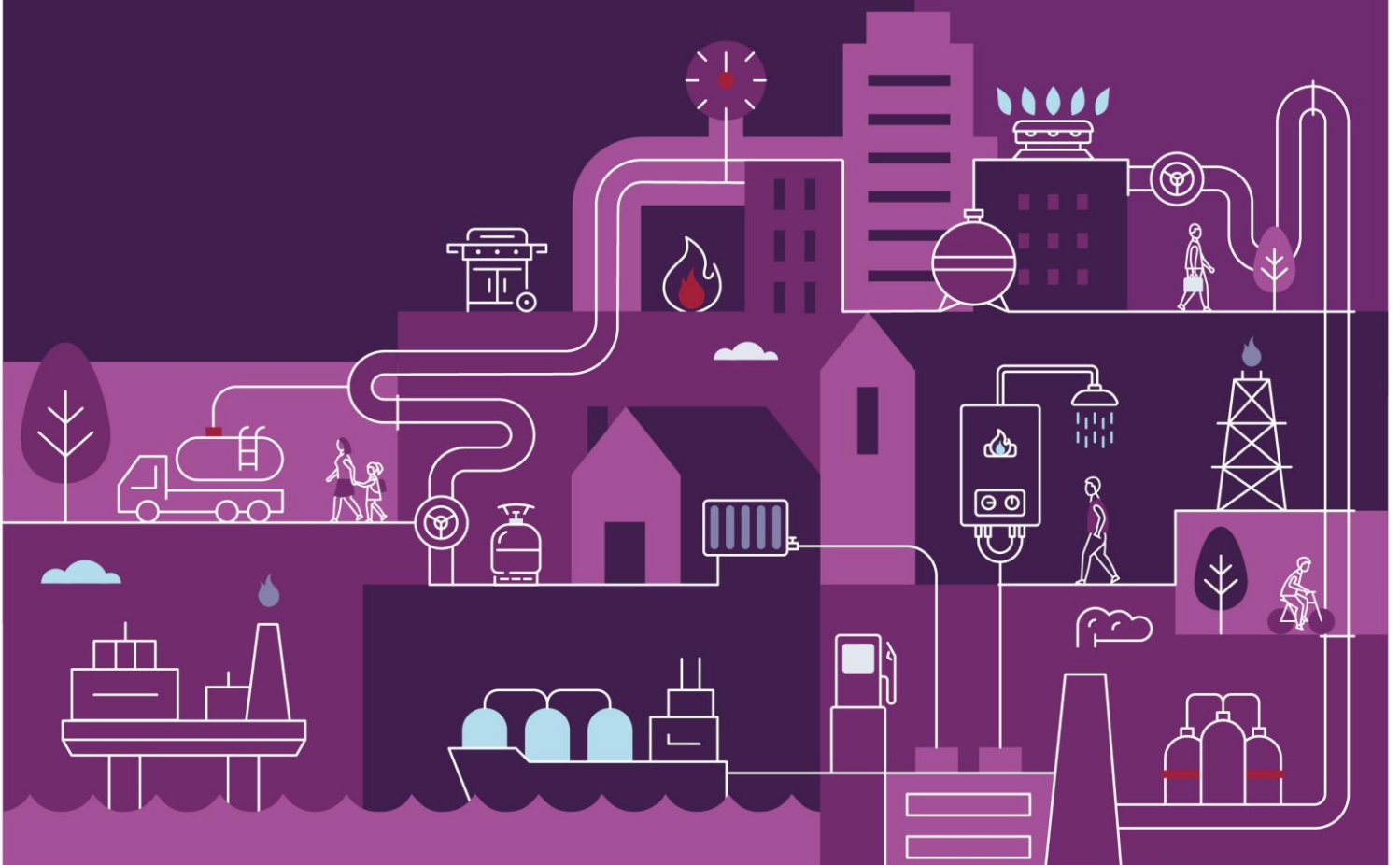


Declared Wholesale Gas Market – Intervention Report

June 2022

Notice of threat to system security

A report into the notice of threat to system security for
gas day 16 June 2022





Important notice

Purpose

AEMO has prepared this report pursuant to rule 351 of the National Gas Rules (NGR), using information available as at 30 June 2022, unless otherwise specified.

Disclaimer

AEMO has made every effort to ensure the quality of the information in this report but cannot guarantee its accuracy or completeness. Any views expressed in this report are those of AEMO unless otherwise stated and may be based on information given to AEMO by other persons.

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Contents

1	Introduction	1
2	Event Summary	1
3	Assessment of event	3
3.1	Adequacy of Part 19 of the NGR	3
3.2	Appropriateness of actions taken by AEMO	4
3.3	Costs of intervention	5
4	Conclusion	5
A1.	Chronology	6

Figures

Figure 1: Longford scheduled and actual injection profile	2
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1 Introduction

On Thursday 16 June 2022, AEMO notified the market of a threat to system security (TTSS) in the Victorian Declared Wholesale Gas Market (DWGM) due to an unplanned outage at the Longford Gas Plant (Longford). This resulted in the potential for insufficient supply to meet forecast demand for the declared transmission system (DTS) from the 6pm schedule.

An unplanned offshore outage on the afternoon of 16 June led to a reduction in injections from Longford into the DTS. This issue, which coincided with the suspension of the National Electricity Market (NEM) on the previous day (15 June), was exacerbated by a relatively low amount of gas offers in the DWGM. As a result, AEMO decided to issue a notice of threat to system security seeking a response from participants to increase offers to the market.

AEMO ended the threat to system security on 17 June 2022 at 05.27 hrs, after observing a recovery in injections at Longford and a return to normal operations.

Rule 351 of the National Gas Rules (NGR) requires that AEMO investigate and prepare a report following an event which is or may be a threat to system security. Rule 351 also requires that AEMO assess and advise on:

- the adequacy of the provisions of the NGR relevant to the event or events
- the appropriateness of actions taken by AEMO in relation to the event or events
- the costs incurred by AEMO and Registered participants as a consequence of responding to the event or events.

This report is published in accordance with rule 351(2) of the NGR. All times used in this report are in Australian Eastern Standard Time (AEST) and a chronology of events is included in Appendix A1.

2 Event Summary

AEMO was contacted by Esso, the operator of Longford, at 14:40 hrs on 16 June 2022 and was informed of an unplanned offshore outage which would impact injections from Longford for gas day 16 June 2022. At that time, Longford accounted for approximately 65% of the total scheduled injections into the DTS for that gas day. No information was initially available on the expected duration of the outage. AEMO, following the notification from Esso, made operational changes to preserve linepack in the Longford to Melbourne Pipeline (LMP) and support pressures at Sale and the Dandenong city gate inlet.

Total demand on gas day 16 June was 905.2 TJ, which included 139.2 TJ of gas generation. A breakdown of demand forecasts across the gas day are outlined in Table 1.

Table 1: Demand forecasts for gas day 16 June

	AEMO		MP		Override (TJ)	Forecast applied at Schedule (TJ)
	System (TJ)	GPG (TJ)	System (TJ)	GPG (TJ)		
6:00	859.1	80.5	799.9	80.5	0.0	880.4
10:00	805.5	178.3	779.7	119.3	25.0	924.0
14:00	798.2	153.1	775.4	115.1	21.0	911.5
18:00	812.0	129.0	786.0	129.0	6.0	921.0
22:00	768.5	138.2	769.5	120.2	0.0	889.7

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As there was no timeline available for Longford’s return to normal production, an assessment of system security was conducted using several scenarios with differing hourly injection profiles. Pipeline engineering models indicated that the operational risk of a pressure breach over the evening peak was low, even if the reduced flows persisted over that period and the forecast demand trended higher. However, there was a risk that a large enough drop in injections from Longford would not be able to be covered by existing offers.

At the schedule produced at 14:00 hrs, a total of 1,079.7 TJ of injections were scheduled out of a total of 1,114.8 TJ offered. There were 195.3 TJ of controllable withdrawals scheduled as well, largely to support gas generation in New South Wales, noting that on the previous evening (15 June) AEMO had activated Reliability and Emergency Reserve Trader (RERT) reserves in the NEM due to forecast lack of reserve. At the 18:00 schedule, there was approximately a 130 TJ buffer before uncontrollable withdrawals would need to be de-scheduled. If the injections at Longford however did not recover, then it was possible that this entire quantity would be eroded and that there would be insufficient supply to meet uncontrollable demand.

Lowering the end-of-day linepack was not a preferred option due to the level of system demand and there being uncertainty around gas generation demand following the suspension of the NEM the previous day (as seen in AEMO’s forecasts in Figure 1 Table 1). This uncertainty included possible constraints on hydro-generation that could have further increased DTS gas generation demand after the publication of the 18:00 schedule.

AEMO acknowledges that not all information is visible to the market and that there are no market reports that provide real time data on injections and withdrawals. Whilst the market notice of the threat to system security included the information required by the Rules, some of this additional context could have also been communicated. The market notice could also have also identified where offers would have been most beneficial from (i.e. to explicitly exclude additional offers from the facility experiencing reduced capacity).

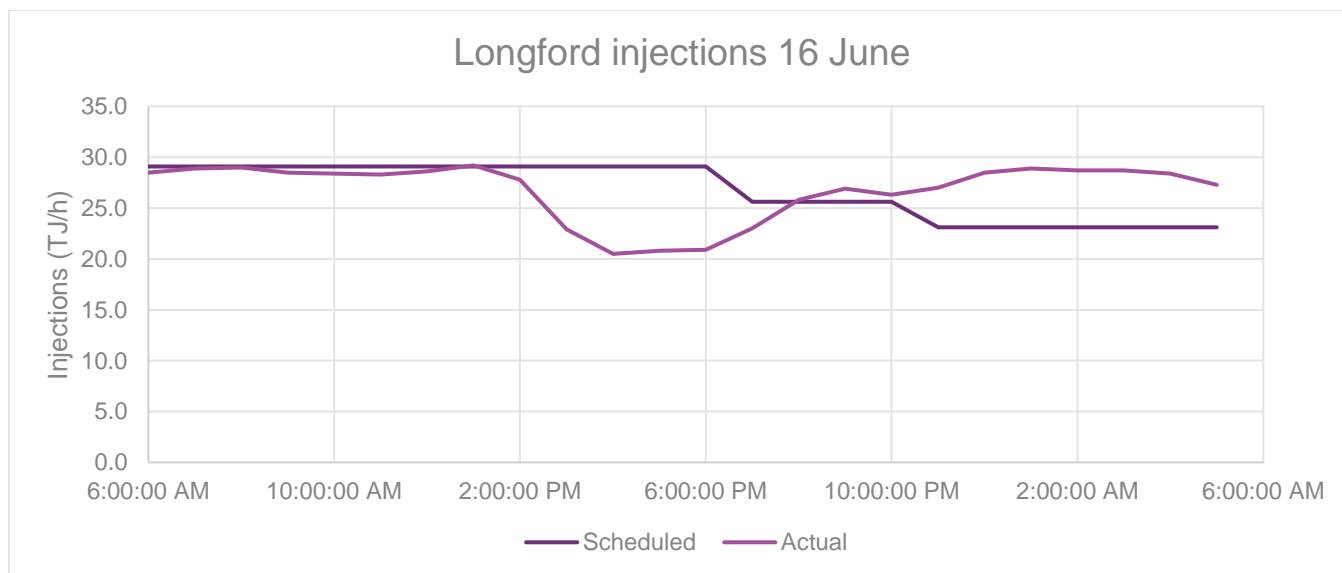


Figure 1: Longford scheduled and actual injection profile

Figure 1 shows Longford actual and scheduled injections on 16 June. At 16.50 hrs, with injections still reduced and no estimated recovery time, AEMO notified the market of a threat to system security due to insufficient available offers to meet demand. AEMO requested a market response to alleviate the threat to system security, with market participants requested to re-evaluate their bids prior to the schedule at 18:00 with a view to offering higher quantities into the market. Figure 1 shows the Longford actual and scheduled injections for the day.

AEMO acknowledges that sending a notice close to cut-off is not optimal, however it is not always possible to send it earlier. A response from the market however was seen in that last 10 minutes prior to bid cut-off, with total offers increasing to 1,183.4 TJ (the majority of which were additional offers into the SWP).

After the 17:00 bid cut-off, AEMO continued engaging with Esso to obtain further information that might inform a constraint. A key concern that AEMO had was that the absence of a constraint at the 18:00 schedule would make it more difficult for other supply sources to make up any shortfall after 22:00 hrs. However, by 17:30 hrs it was communicated that the offshore outage was expected to be rectified in the following hour and that injections would ramp up and recover over the course of the evening, however there was still expected to be a shortfall in Longford injections into the DTS.

Esso was not able to confirm a constraint due to the allocation of gas deliveries between the DTS and the Eastern Gas Pipeline not being advised by Longford customers. Esso did provide an estimated total Longford production quantity of 960 TJ (down from 1,020 TJ) so AEMO decided to apply a daily constraint of 660 TJ at the Longford injection meter based on this estimated daily production quantity. The schedule was subsequently approved at 17:50 hrs. This action is consistent with section 3.8.1 of the Wholesale Market Gas Scheduling Procedures, in that AEMO may apply and change SDPCs independently where it becomes aware of changes to the physical capabilities of a system injection point.

Following this initial constraint applied by AEMO, Esso submitted a revised number of 642.4 TJ which was applied at the 22:00 schedule.

As a result of the facility's recovery and the constraint application, no further action was required to be taken. AEMO continued to observe system operations for the remainder of the gas day before ending the threat to system security at 05.26 hrs on 17 June 2022. The actual Longford production for the gas day was 962 TJ, close to the 960 TJ estimate provided at 17:30 hrs.

A chronology of events is included in appendix A1.

3 Assessment of event

This event was a result of an unplanned outage at Longford. Unplanned outages can cause a supply and demand imbalance when there are insufficient offers available to cover the loss of scheduled injections.

The market was notified of a threat to system security due to a potential supply and demand imbalance and AEMO called for a market response in accordance with NGR 342.

3.1 Adequacy of Part 19 of the NGR

In respect to this event, AEMO has assessed the application and adequacy of the NGR, with a primary focus on the following provisions:

- NGR 341 Notice of threat to system security.
- NGR 342 Market response to threat to system security.
- NGR 351 Intervention Reports.

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3.1.1 Notice of threat to system security

Rule 341 requires that if AEMO believes there is a potential threat to system security, it must notify registered participants, without delay, of the details of that threat to system security. In this case, AEMO believed that a threat was indicated by insufficient offers to meet forecast demand.

At 16.50 hrs on 16 June 2022, AEMO notified the market of the threat to system security, calling for a market response. AEMO acknowledges that there needs to be a balance between informing the market as early as possible and providing the most current information on potential impacts to the market, however the timing of this market notice gave participants a limited window of opportunity to respond.

AEMO will be reviewing this process to see if there are opportunities to improve the timing of market notices being sent out, noting that AEMO is dependent on information being provided by the facility operator unless more real time information is made available to participants. AEMO will also be reviewing the information provided in market notices in the context of this event to identify improvements.

3.1.2 A market response

As per rule 342, when AEMO considers that a threat to system security could subside without intervention, AEMO must provide Registered market participants with information regarding the threat; and any actions required that could alleviate the threat. In this request, the market response was for a re-evaluation of their bids and offers with the expectation that higher quantities could be offered into the market.

AEMO finds that the NGR provisions are adequate.

3.1.3 Intervention Report timing

Rule 351 places an obligation on AEMO to publish a report within 10 business days after a threat to system security event. AEMO has adopted the following approach to reporting on these events, wherever possible:

- Investigate and publish a report based on immediately available data within 10 business days of the relevant event.
- Where not all information necessary to complete the required assessment is available, that report will be flagged as preliminary, with a final report to be published once the additional information is received and analysed.

For this event, AEMO believes it has all necessary information and does not intend to publish a subsequent report.

3.2 Appropriateness of actions taken by AEMO

AEMO's objectives during this event were to:

- Operate in accordance with the NGR and the Wholesale Market Procedures.
- Limit the risk of involuntary curtailment to customers including any GPG.
- Alleviate the threat to system security and return the DWGM to normal operating conditions.

Rule 206 requires that AEMO schedule injections into and withdrawals from the DTS in accordance with bids and must:

- Comply with the gas scheduling procedures; and

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- Use its reasonable endeavours to operate within the system security procedures.

In this event, AEMO took all reasonable steps to assess the forecasts and notified the market to alleviate this threat by calling for a market response.

3.3 Costs of intervention

AEMO did not require any intervention to alleviate the notice of threat to system security for gas day 16 June 2022. As a result, there was no market impact.

4 Conclusion

AEMO issued a notice of threat to system security in the Victorian DWGM for gas day 16 June 2022 due to an unplanned outage at Longford and insufficient offers to cover the loss of injections if the facility had failed to recover. The threat subsided without intervention due to increased offers from market participants and Longford injections recovering over the remainder of the gas day.

Rule 351 of the NGR requires that AEMO investigate and prepare a report following an event which is or may be a threat to system security. AEMO has assessed the application and adequacy of associated NGR provisions and finds that these provisions were applied correctly.

Please direct any feedback or questions regarding this report to GasMarket.Monitoring@aemo.com.au.

A1. Chronology

Date/Time (AEST)	Event/Action	Details
16 June 2022, 14:40 hrs	Esso called AEMO	AEMO was notified by Esso that an offshore issue would reduce injections from the Longford Gas Plant.
16 June 2022, 16:20 hrs	Esso called AEMO	Esso unable to provide further information about expected flow rates. Unable to submit a constraint in time for the 17:00 schedule cut-off.
16 June 2022, 16.50 hrs	Notice of a threat to system security	AEMO notified the market of a threat to system security and called for a market response.
16 June 2022, 17.30 hrs	Esso called AEMO, provided an indicative total production quantity of 960 TJ	Esso advised that injections into the DTS were expected to recover over the next few hours but still unable to provide a DTS constraint quantity.
16 June 2022, 17.50 hrs	AEMO determined and applied a Longford DTS constraint quantity and approved the 18:00 schedule	AEMO applied a constraint at Longford injection meter to of 660 TJ/d based on reduced daily production quantities via Esso.
16 June 2022, 21.28 hrs	Constraint revised	AEMO revised the constraint at Longford injection meter to 642.439 TJ/d based on the Esso's request
17 June 2022, 05.26 hrs	Notice to end the threat to system security	AEMO ended the threat to system security.